Serial No.: 10/630,343 Filed: July 30, 2003

Page : 2 of 17

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A compound of the following Formula (I)

$$R^4$$
 R^3
 R^2
 NHR^1
 R^5)m

wherein,

R¹ is hydrogen, COR^a, or COOR^a;

each of R^2 , R^3 and R^4 is, independently, hydrogen, C_1 - C_{10} alkyl, or OR^b , with the proviso that R^2 , R^3 and R^4 cannot all be hydrogen;

each of R^5 and R^6 is, independently, hydrogen, C_1 - C_6 alkyl, OR^c , nitro, halo, $N(R^c)_2$, $NH(CH_2)_pN(R^c)_2$, $(CH_2)_qOH$, $(CH_2)_qX$, $CONHR^c$, $CONH(CH_2)_pN(R^c)_2$, SO_3R^c , or SO_2R^c with the proviso that when R^1 is hydrogen and R^4 is CH_3 , R^5 and R^6 cannot both be hydrogen; and each of m and n, is independently, 0-4;

in which R^a is aryl, or C₁-C₁₀ alkyl, optionally substituted with oxo; R^b is C₁-C₁₀ alkyl; R^c is

Serial No.: 10/630,343 Filed: July 30, 2003

Page : 3 of 17

hydrogen or C_1 - C_{10} alkyl; p is 1-5; and q is 1-3.

- 2. (Original) The compound of claim 1, wherein one of R^2 , R^3 and R^4 is C_1 - C_6 alkyl or OR^b and one of R^2 , R^3 and R^4 is hydrogen.
- 3. (Original) The compound of claim 2, wherein R¹ is hydrogen.
- 4. (Original) The compound of claim 2, wherein R¹ is COR^a or COOR^a.
- 5. (Original) The compound of claim 4, wherein R^a is C_1 - C_4 alkyl, optionally substituted with oxo.
- 6. (Original) The compound of claim 2, wherein each of R^5 and R^6 is independently, hydrogen, C_1 - C_6 alkyl, OR^c or $CONH(CH_2)_pN(R^c)_2$, and each of m and n is, independently, 1.
- 7. (Original) The compound of claim 6, wherein R^c is C_1 - C_4 alkyl and p is 2.
- 8. (Original) The compound of claim 2, wherein one of R^2 , R^3 and R^4 is C_1 - C_4 alkyl or OR^b , R^b being C_1 - C_4 alkyl.
- 9. (Original) The compound of claim 8, wherein R^1 is COR^a or $COOR^a$, R^a being C_1 - C_4 alkyl, optionally substituted with oxo.
- 10. (Original) The compound of claim 8, wherein R¹ is H.
- 11. (Original) The compound of claim 8, wherein R^5 and R^6 are each independently hydrogen, C_1 - C_6 alkyl, OR^c or $CONH(CH_2)_pN(R^c)_2$; and each of m and n is,

Serial No.: 10/630,343 Filed: July 30, 2003

Page : 4 of 17

independently, 1.

- 12. (Original) The compound of claim 11, wherein R^c is C_1 - C_4 alkyl and p is 2.
- 13. (Original) The compound of claim 2, wherein one of R², R³ and R⁴ is CH₃ or OCH₃.
- 14. (Original) The compound of claim 13, wherein R¹ is COR^a or COOR^a.
- 15. (Original) The compound of claim 14, wherein R^a is C_1 - C_4 alkyl, optionally substituted with oxo.
- 16. (Original) The compound of claim 15, wherein R¹ is COCH₂CH₂COCH₃ or COOCH₂CH₃.
- 17. (Original) The compound of claim 16, wherein R^5 and R^6 are each independently hydrogen, C_1 - C_6 alkyl, OR^c , $CONHR^c$, or $CONH(CH_2)_pN(R^c)_2$; and each of m and n is, independently, 1.
- 18. (Original) The compound of claim 17, wherein R^c is C_1 - C_4 alkyl and p is 2.
- 19. (Original) The compound of claim 18, wherein R⁵ is CONH(CH₂)₂N(CH₃)₂ and R⁶ is CH₃.
- 20. (Original) The compound of claim 19, wherein R⁵ and R⁶ are at the C-4 and C-5 positions of the acridine ring, respectively.
- 21. (Original) The compound of claim 20, wherein the compound is {3-[4-(2-dimethylamino-ethylcarbamoyl)-5-methyl-acridin-9-ylamino]-5-methyl-phenyl}-carbamic acid

Serial No.: 10/630,343 Filed: July 30, 2003

Page : 5 of 17

ethyl ester, or {3-[4-(2-dimethylamino-ethylcarbamoyl)-5-methyl-acridin-9-ylamino]-4-methyl-phenyl}-carbamic acid ethyl ester.

- 22. (Original) The compound of claim 13, wherein R¹ is hydrogen.
- 23. (Original) The compound of claim 22, wherein R^5 and R^6 are each independently hydrogen, C_1 - C_6 alkyl, OR^c $CONHR^c$, or $CONH(CH_2)_pN(R^c)_2$, and each of m and n is, independently, 1.
- 24. (Original) The compound of claim 23, wherein R^c is C_1 - C_4 alkyl and p is 2.
- 25. (Original) The compound of claim 24, wherein R⁵ is CONH(CH₂)₂N(CH₃)₂ and R⁶ is CH₃.
- 26. (Original) The compound of claim 25, wherein R⁵ and R⁶ are at the C-4 and C-5 positions of the acridine ring, respectively.
- 27. (Original) The compound of claim 26, wherein the compound is [9-(1-amino-5-methyl-phenyl)amino]-5-methyl-acridine-4-carboxylic acid (2-dimethylamino-ethyl)-amide or [9-(5-amino-2-methyl-phenyl)amino]-5-methyl-acridine-4-carboxylic acid (2-dimethylamino-ethyl)-amide:

Serial No.: 10/630,343 : July 30, 2003 Filed

6 of 17 Page

(Currently Amended) A pharmaceutical composition comprising a compound of Formula 28. (I)<u>:</u>

$$R^4$$
 R^3
 R^2
 NHR^1
 R^5
 R
 R^5

wherein,

R¹ is hydrogen, COR^a, or COOR^a;

each of R², R³ and R⁴ is, independently, hydrogen, C₁-C₁₀ alkyl, or OR^b, with the proviso that R², R³ and R⁴ cannot all be hydrogen;

each of R⁵ and R⁶ is, independently, hydrogen, C₁-C₆ alkyl, OR^c, nitro, halo, N(R^c)₂, NH(CH₂)_pN(R^c)₂, (CH₂)_qOH, (CH₂)_qX, CONHR^c, CONH(CH₂)_pN(R^c)₂, SO₃R^c, or SO₂R^c with the proviso that when R¹ is hydrogen and R⁴ is CH₃, R⁵ and R⁶ cannot both be hydrogen; and each of m and n, is independently, 0-4;

in which R^a is aryl, or C₁-C₁₀ alkyl, optionally substituted with oxo; R^b is C₁-C₁₀ alkyl; R^c is hydrogen or C₁-C₁₀ alkyl; p is 1-5; and q is 1-3; and a pharmaceutically acceptable salt or carrier.

(Currently Amended) The composition of claim 28, wherein the compound is a 29. compound of claim 7 one of R², R³ and R⁴ is C₁-C₆ alkyl or OR^b and one of R², R³ and R⁴ is hydrogen; each of R⁵ and R⁶ is independently, hydrogen, C₁-C₆ alkyl, OR^c or CONHR^c, or

Serial No.: 10/630,343 Filed: July 30, 2003

Page : 7 of 17

 $CONH(CH_2)_pN(R^c)_2$; each of m and n is, independently, 1; R^c is C_1-C_4 alkyl; and p is 2.

30. (Currently Amended) The composition of claim 28, wherein the compound is a compound of claim 13 one of R², R³ and R⁴ is CH₃ or OCH₃ and one of R², R³ and R⁴ is hydrogen.

- 31. (Currently Amended) The composition of claim 28, wherein the compound is a compound of claim 21 {3-[4-(2-dimethylamino-ethylcarbamoyl)-5-methyl-acridin-9-ylamino]-5-methyl-phenyl}-carbamic acid ethyl ester, or {3-[4-(2-dimethylamino-ethylcarbamoyl)-5-methyl-acridin-9-ylamino]-4-methyl-phenyl}-carbamic acid ethyl ester.
- 32. (Currently Amended) The composition of claim 28, wherein the compound is a compound of claim 27 [9-(1-amino-5-methyl-phenyl)amino]-5-methyl-acridine-4-carboxylic acid (2-dimethylamino-ethyl)-amide or [9-(5-amino-2-methyl-phenyl)amino]-5-methyl-acridine-4-carboxylic acid (2-dimethylamino-ethyl)-amide.

Serial No.: 10/630,343 : July 30, 2003 Filed

Page 8 of 17

(Currently Amended) A method of treating cancer, comprising administering to a subject 33. in need thereof an effective amount of the compound of Formula (I): [[.]]

$$R^4$$
 R^3
 R^2
 NHR^1
 $(R^6)n$
 $(R^5)m$

wherein,

R¹ is hydrogen, COR^a, or COOR^a;

each of R², R³ and R⁴ is, independently, hydrogen, C₁-C₁₀ alkyl, or OR^b, with the proviso that R², R³ and R⁴ cannot all be hydrogen;

each of R⁵ and R⁶ is, independently, hydrogen, C₁-C₆ alkyl, OR^c, nitro, halo, N(R^c)₂, $NH(CH_2)_pN(R^c)_2$, $(CH_2)_pOH$, $(CH_2)_pX$, $CONHR^c$, $CONH(CH_2)_pN(R^c)_2$, SO_3R^c , or SO_2R^c with the proviso that when R¹ is hydrogen and R⁴ is CH₃, R⁵ and R⁶ cannot both be hydrogen; and each of m and n, is independently, 0-4;

in which R^a is aryl, or C₁-C₁₀ alkyl, optionally substituted with oxo; R^b is C₁-C₁₀ alkyl; R^c is hydrogen or C_1 - C_{10} alkyl; p is 1-5; and q is 1-3.

34. (Original) The method of claim 33, wherein the cancer is colon cancer, stomach cancer, brain cancer, breast cancer, or leukemia.

Serial No.: 10/630,343 : July 30, 2003 Filed

: 9 of 17 Page

35. (Currently Amended) A method for synthesizing a compound of Formula (II):

$$(R^6)_n$$
 (II)

the method comprising: contacting a compound of Formula (III):

$$R^4$$
 H_2N
 NH_2

with a compound of Formula (IV):

$$(R^6)_n$$
 (IV)

to form a compound of Formula (IV) (II), wherein:

 R^4 is C_1 - C_{10} alkyl or OR^b ; each of R⁵ and R⁶ is, independently, hydrogen, C₁-C₆ alkyl, OR^c, nitro, halo, N(R^c)₂, $NH(CH_2)_pN(R^c)_2$, $(CH_2)_qOH$, $(CH_2)_qX$, $CONHR^c$, $CONH(CH_2)_pN(R^c)_2$, SO_3R^c , or SO_2R^c ; and

Serial No. : 10/630,343 Filed : July 30, 2003 Page : 10 of 17

each of m and n, is independently, 0-4;

in which R^a is aryl, or C_1 - C_{10} alkyl, optionally substituted with oxo; R^b is C_1 - C_{10} alkyl; R^c is hydrogen or C_1 - C_{10} alkyl; p is 1-5; q is 1-3;

L is halo, OSO₂R⁷, or OR⁷; and

R⁷ is alkyl, haloalkyl, or aryl optionally substituted with halo or nitro.